Determinants of financial inclusion in Egypt: The role of consumer perceived financial regulations, technological infrastructure, and the mediating role of cultural norms

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Keywords
Consumer Perceived Financial Regulations, Cultural Norms, Egypt, Financial Inclusion, Mediation Analysis, Technological Infrastructure

Abstract
Financial inclusion has become an important policy objective due to its role in promoting economic development, reducing inequality, and expanding access to formal financial services. Despite significant progress in Egypt, a portion of the population remains excluded from the formal financial system. This study examines the determinants of financial inclusion in Egypt by investigating the influence of Consumer Perceived Financial Regulations (CPFR) and Technological Infrastructure (TI), while exploring the mediating role of Cultural Norms (CN).

A quantitative research design was employed using primary data collected through a structured questionnaire distributed to individuals in Egypt. Following data screening and outlier removal, the final sample consisted of 142 respondents. Multiple linear regressions and mediation analyses were conducted to test the proposed relationships between the study variables.

The findings indicate that Consumer Perceived Financial Regulations and Technological Infrastructure both have positive and statistically significant effects on Financial Inclusion. Furthermore, both variables positively influence Cultural Norms, which also significantly contribute to Financial Inclusion. Mediation analysis using the Delta Method and Percentile Bootstrap (5,000 resamples) confirmed that Cultural Norms partially mediate these relationships.

The study contributes to the financial inclusion literature by introducing Consumer Perceived Financial Regulations as an underexplored determinant of financial inclusion and by demonstrating the mediating role of Cultural Norms within the Egyptian context. The findings provide practical implications for policymakers and financial institutions seeking to enhance financial inclusion through integrated regulatory, technological, and social initiatives.

Introduction

In the past, many individuals who were not part of the formal financial system (e.g., commercial banks, insurance companies, etc.) were intentionally or unintentionally excluded from it, often referred to as the unbanked or underserved. They relied primarily on on-hand cash, the only method available to them, to meet all their financial needs.

There was no proper capital allocation. As a result, no cash injections (deposits) were made in the formal financial institutions, leaving these funds largely inactive and outside the formal economy. This limited the potential for such resources to be mobilised for productive investment and economic growth.

Recognising these challenges and inefficiencies deriving from the situation, it inspired governments and policymakers to begin implementing initiatives that enabled access to financial services. This process marked the beginning of integrating the unbanked into the formal financial system. Through this set of actions and policies, it was referred to as financial inclusion (FI)—an important policy objective for many countries in recent years, aiming to improve economic efficiency and productivity. In this context, the concept of financial inclusion garnered significant attention in both policy and academia.

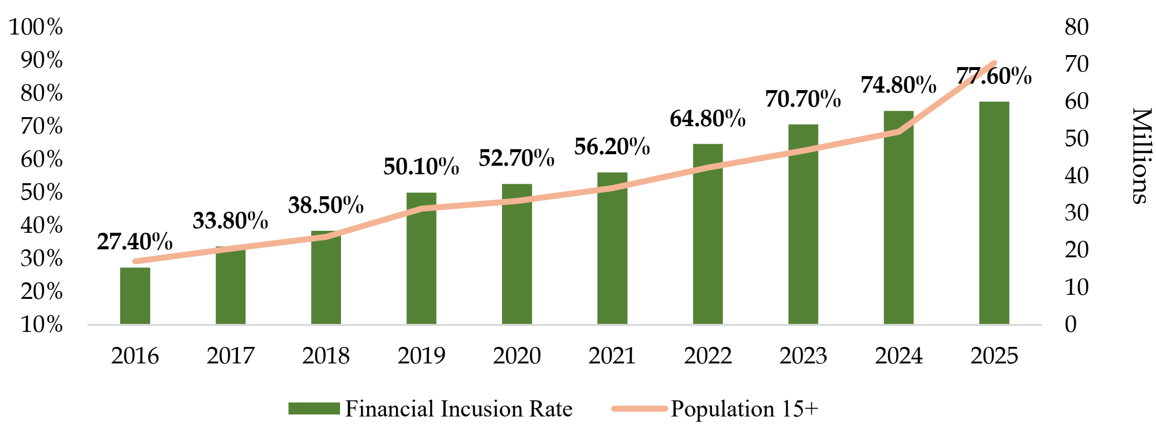
According to an Independent Evaluation Group (2023), financial inclusion enables individuals to access affordable financial services, such as payments, credit, savings products, and insurance, delivered in a responsible and sustainable way. Critical for reducing poverty rates and fuelling economic growth.

Similarly, Ndoye & Barajas (2022) defined financial inclusion as the access and formal use of financial services. Through further emphasis, they stated that, over the years, many countries in the Middle East and North Africa (MENA) region assigned a higher policy priority to financial inclusion.

As a result, financial inclusion emerged as one of the key drivers of economic development. With it, financial inclusion began to be widely recognised on a global scale as an essential component of continuous sustainable development. The willingness of a country to achieve those Sustainable Development Goals (SDGs) issued by the United Nations is contingent upon ensuring widespread financial inclusion. Existing literature in accounting and finance suggests that the increase of financial inclusion within a country has a direct positive relationship with several favourable factors.

These favourable factors might contribute to an increase in a country's Gross Domestic Product (GDP), increased production of renewable energy, improved rates of education (Raji et al., 2024).

This paper aims to study and focus specifically on financial inclusion within the context of Egypt, where, through the years, substantial progress has been achieved as part of a broader national agenda for economic reform and economic growth. According to the Central Bank of Egypt (CBE) (2025), financial inclusion rates have increased, reaching approximately 74.8% of the eligible population aged 15 and above by the end of 2024, equivalent to nearly 52 million individuals with access to and usage of formal financial services (Figure 1). This upward trend continued into 2025, with rates reaching 77.6% (Figure 1) (CBE, 2026).



Source: Central Bank of Egypt (2026)

This progress has been largely driven by a combination of regulatory reforms, government-led initiatives, and the rapid expansion of digital financial services. In particular, the promotion of mobile wallets, prepaid cards, and electronic payment systems has played a crucial role in extending financial services to previously underserved populations. These efforts are aligned with Egypt's national development framework, including Egypt Vision 2030, which emphasises financial inclusion as a key pillar for achieving sustainable economic development and social equity.

Still, a portion of the population remains unbanked or underserved, prevalent in rural communities and low-income groups, where structural challenges and personal beliefs, such as limited financial literacy leading to false perceptions, cultural preferences for cash-based transactions, disparities in technological infrastructure, and financial institutions having a bad stigma in their communities, continue to decelerate the widespread adoption of formal financial services in some areas.

Research Problem & Objective

Research Problem

Despite the extensive literature on financial inclusion, limited research has examined the combined influence of consumer perceptions of regulations, technological infrastructure, and cultural norms on financial inclusion. Furthermore, the role of consumer perceptions of financial regulations has received relatively limited attention compared with objective regulatory and institutional factors. Consequently, there remains a gap in understanding how these factors collectively shape individuals' participation in the formal financial system.

Research Objective

The objective of this research is to examine the determinants of financial inclusion in Egypt, focusing on three key factors: (1) Consumer Perceived Financial Regulations (CPFR), (2) Technological Infrastructure (TI), and the mediating role of (3) Cultural Norms (CN), overall influencing the level of Financial Inclusion (FI).

Literature Review

Consumer Perceived Financial Regulations remains an underexplored determinant of financial inclusion despite the extensive literature on financial regulation and consumer protection. Existing research has primarily focused on the role of financial regulations in promoting financial stability, institutional performance, and their effects on a macro scale, with relatively limited attention given to how individuals' perceptions of regulatory frameworks influence their willingness to engage with formal financial services. Nevertheless, studies examining regulatory awareness, institutional performance based on consumer trust, and customer perceptions provide valuable insights into the potential relationship between Consumer Perceived Financial Regulations and Financial Inclusion.

Evidence suggests that positive consumer perceptions contribute to favourable financial outcomes. Tulcanaza-Prieto et al. (2022) founded that customer perceptions of trust, service quality, and institutional reliability positively influence banking performance, highlighting the importance of subjective evaluations in shaping financial behaviour.

Similarly, financial education, regulatory awareness, and trust in financial institutions have been shown to encourage participation in the formal financial system, while inadequate awareness and low institutional confidence remain significant barriers to financial inclusion (Tambunan, 2015; Ahunov, 2018; Koomson et al., 2023). This perception of regulatory fairness is acutely shaped by real disparities, such as higher collateral requirements imposed on women-managed businesses compared to men-managed businesses (Ahunov, 2018).

The literature further suggests that financial regulation exerts both enabling and constraining effects on financial inclusion. Overly restrictive regulatory requirements may reduce financial access and services, illustrating a delicate balance where excessive oversight intended to promote stability may inadvertently constrain service usage (Momany, 2018). By contrast, effective regulatory quality creates an enabling environment that promotes financial participation and account ownership (Anarfo & Abor, 2020; Chen & Divanbeigi, 2019). In addition, consumers' perceptions of regulatory fairness, effectiveness, and consumer protection have been shown to influence behavioural intentions and confidence in financial institutions (Milosevic et al., 2025; Renganathan et al., 2012). In underserved communities, or banking deserts, this translates into a need for communal financial orientation, where individuals must perceive that engaging with a bank benefits their broader community's well-being to foster institutional trust (Mende et al., 2020).

Collectively, these findings indicate that consumers' perceptions of financial regulations may influence financial inclusion by shaping trust, confidence, and awareness of the formal financial system. However, empirical evidence directly examining Consumer Perceived Financial Regulations as a distinct determinant of financial inclusion remains limited, highlighting the need for further investigation.

Technological Infrastructure has been widely recognised as a key driver of financial inclusion by improving access to formal financial services through digital and physical delivery channels. Existing research consistently demonstrates that internet connectivity, mobile networks, and digital technologies facilitate financial participation, while inadequate infrastructure, unreliable connectivity, and limited digital access remain significant barriers, particularly in developing economies (Demirgüç-Kunt et al., 2018; Musabegovic et al., 2019; Ediagbonya & Tioluwani, 2023; Ahunov, 2018).

Beyond digital connectivity, physical infrastructure such as automated teller machines (ATMs) and point-of-sale (POS) terminals continues to play an important role in expanding financial access, particularly where digital adoption remains limited (Mukherjee & Gaur, 2024; Obasuyi & Atanda, 2025).

In addition, fintech innovations, including mobile banking, mobile money, digital payment platforms, and digital lending, have created new opportunities for financial inclusion. However, their effectiveness depends not only on availability but also on usability, digital literacy, consumer trust, and cybersecurity (Ezeocha, 2024; Nwanegbo, 2025; Omoniwa, 2021).

Digitisation can paradoxically widen financial exclusion for those lacking the skills to navigate digital interfaces (Ediagbonya & Tioluwani, 2023), while consumer distrust is actively reinforced by social networks transmitting cautionary narratives about fraud and cyber-attacks (Ezeocha, 2024).

Furthermore, to ensure infrastructure serves inclusive development objectives and to counter the built-in advantages of big payment providers, governments may need to step in with the public provision of narrow banking services (dos Santos & Kvangraven, 2017). Overall, the literature suggests that technological infrastructure promotes financial inclusion by reducing access barriers while encouraging the adoption and sustained use of formal financial services.

Existing research on Cultural Norms suggests that shared values, beliefs, and behavioural expectations shape individuals' willingness to engage with formal financial services. Cross-country evidence indicates that national culture significantly influences financial inclusion. Studies based on Hofstede's cultural dimensions show that individualism is generally associated with greater financial inclusion, whereas uncertainty avoidance and power distance tend to discourage participation by limiting trust in formal institutions (Liaqat et al., 2022; Raji et al., 2024). This relationship is supported by the emancipation theory of trust, which argues that societies characterised by broader interpersonal trust are more likely to engage with formal financial systems (Lu et al., 2021).

Beyond national culture, socio-cultural characteristics such as religion and institutional history also shape financial behaviour. Evidence from Sub-Saharan Africa suggests that the effectiveness of financial inclusion initiatives varies across religious and linguistic contexts, reflecting differences in social values and institutional acceptance (Atadouanla Segning et al., 2024). Specifically, religious prohibitions on interest-bearing loans in Islamic-dominated countries limit engagement with conventional financial products, resulting in a lack of inclusion where Islamic finance alternatives remain underdeveloped.

Trust remains a central mechanism linking cultural norms to financial inclusion. Individuals who perceive financial institutions as trustworthy are more likely to adopt formal financial services, whereas mistrust, limited financial literacy, and concerns regarding fraud encourage continued reliance on informal financial arrangements (Lu et al., 2021; Malladi et al., 2021).

Collectively, the literature suggests that cultural norms influence financial inclusion by shaping institutional trust, social acceptance, and individuals' willingness to participate in the formal financial system.

Financial Inclusion has become a central policy objective aimed at ensuring individuals have access to and make effective use of formal financial services (Independent Evaluation Group, 2023; Ndoye & Barajas, 2022). Contemporary research recognises financial inclusion as a multidimensional concept encompassing access, usage, affordability, quality, and the suitability of financial services rather than merely account ownership.

Existing literature highlights several challenges in measuring financial inclusion. Pesque-Cela et al. (2021) argued that many existing indices overemphasise supply-side indicators while overlooking behavioural and qualitative dimensions such as financial literacy, consumer protection, and product suitability.

Similarly, Arun & Kamath (2015) stated that successful financial inclusion requires policies that extend beyond expanding access to developing financial capabilities and encouraging sustained usage, advocating for a progressive approach where countries advance by using payment products as the optimal entry point before moving to lending, long-term savings, and insurance.

Evidence also suggests that access alone does not guarantee financial participation. Osei (2021) demonstrated that individuals may voluntarily remain outside the formal financial system despite receiving financial literacy training and access to banking services, indicating that behavioural and contextual factors play an important role in determining financial inclusion.

Overall, the literature supports viewing financial inclusion as a multidimensional and behavioural phenomenon influenced by both structural conditions and individual decision-making.

Collectively, the reviewed literature suggests that financial inclusion extends beyond the provision of financial services or technological infrastructure. Rather, it is shaped by structural, technological, and behavioural factors that influence individuals' willingness to participate in the formal financial system.

The literature on Consumer Perceived Financial Regulations highlights a notable research gap. While previous studies have examined financial regulation from institutional and policy perspectives, limited attention has been given to how consumers perceive regulatory frameworks and how these perceptions influence financial inclusion. Existing evidence indicates that regulatory awareness, financial education, and institutional trust encourage participation in formal financial services (Tambunan, 2015; Ahunov, 2018; Koomson et al., 2023).

Research on technological infrastructure consistently demonstrates that internet connectivity, digital banking platforms, fintech innovations, and physical financial infrastructure facilitate financial inclusion. Nevertheless, technological access alone is insufficient, as adoption also depends on usability, trust, digital literacy, and consumer confidence (Ezeocha, 2024; Omoniwa, 2021). This suggests that the influence of technological infrastructure may operate through broader behavioural and social mechanisms.

The literature further identifies cultural norms as an important determinant of financial inclusion. Cross-country evidence indicates that cultural values, institutional trust, and social expectations shape individuals' financial behaviour and influence the effectiveness of financial inclusion initiatives (Liaqat et al., 2022; Raji et al., 2024; Atadouanla Segning et al., 2024). Similarly, studies on financial inclusion emphasise that meaningful participation depends not only on access but also on behavioural and contextual factors, highlighting the multidimensional nature of financial inclusion (Pesque-Cela et al., 2021; Osei, 2021).

Accordingly, this study integrates these four strands of literature by examining the direct effects of Consumer Perceived Financial Regulations and Technological Infrastructure on Financial Inclusion, while investigating the mediating role of Cultural Norms.

Hypothesis Development

Based on the literature, the following hypotheses were proposed, and the conceptual framework presented in Figure 2:

Direct Effects

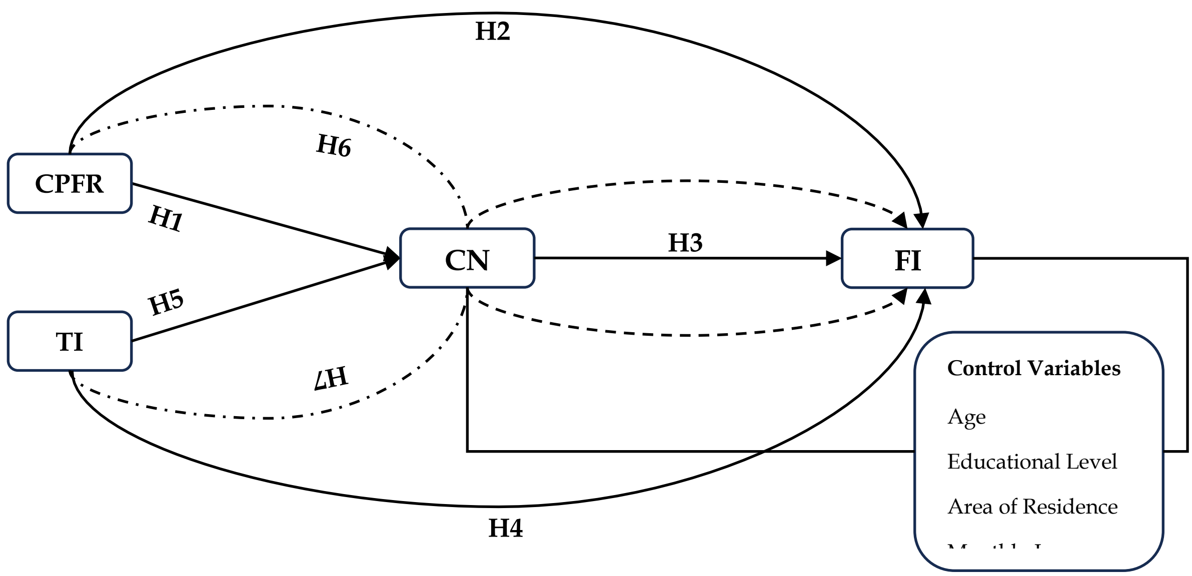
H1: Consumer Perceived Financial Regulations positively influence Cultural Norms.
H2: Consumer Perceived Financial Regulations positively influence Financial Inclusion.
H3: Cultural Norms positively influence Financial Inclusion.
H4: Technological Infrastructure positively influences Financial Inclusion.
H5: Technological Infrastructure positively influences Cultural Norms.

Mediating Effects

H6: Cultural Norms mediate the relationship between Consumer Perceived Financial Regulations and Financial Inclusion.

H7: Cultural Norms mediate the relationship between Technological Infrastructure and Financial Inclusion.

Figure 2: Conceptual Framework



Research Methodology

This study adopts a quantitative research design examining the determinants of financial inclusion in Egypt. Multiple linear regression models were employed along with a two-mediator analysis model to measure the indirect effects of Cultural Norms (CN). Overall, analysing the relationships between Consumer Perceived Financial Regulations (CPFR), Technological Infrastructure (TI), Cultural Norms (CN), and Financial Inclusion (FI).

The study relied on primary data collected through a structured questionnaire distributed to individuals within Egypt. The questionnaire is designed to capture respondents' perceptions of financial regulations, technological infrastructure, cultural norms, and their level of financial inclusion. A Likert scale was used to measure all constructs, allowing for quantitative analysis of subjective perceptions. The sample was selected using a convenience sampling technique.

6. Findings

A sample of N = 150 was surveyed. A box plot was constructed to identify any outliers within the data. Eight responses were identified as outliers and subsequently removed, reducing the final sample size to N = 142.

Demographics

Demographic profile of the 142 respondents is summarised in Table 1. With respect to age, the majority of respondents fell within the 15–24 age group (51.4%). In terms of area of residence, the sample's majority was urban, with 96.5% of respondents residing in urban areas and only 3.5% in rural areas. Regarding monthly income level, the largest proportion of respondents earned between 1 – 7,000 EGP (45.1%). In educational level, the majority of respondents either held a university degree or were in the process of obtaining one, representing 97.2%.

(Table 1) Demographic Information	Category	N	%
Age	15 – 24	73	51.4%
	25 – 40	28	19.7%
	41 – 60	31	21.8%

	60+	10	7.0%
Area of Residence	Urban	137	96.5%
	Rural	5	3.5%
Monthly Income Level	1 – 7,000 EGP	64	45.1%
	7,001 – 15,000 EGP	25	17.6%
	15,001 – 30,000 EGP	35	24.6%
	30,001+ EGP	18	12.7%
Educational Level	No Formal Education	0	0%
	Primary	1	0.7%
	Preparatory	1	0.7%
	Secondary	2	1.4%
	University	138	97.2%

Reliability Test

Cronbach's Alpha was computed for each construct in the questionnaire to assess its internal consistency (Table 2).

(Table 2) Variable	Cronbach's Alpha	Reliability
CPFR	0.868	Good
TI	0.874	Good
CN	0.804	Good
FI	0.829	Good

All constructs exceeded the recommended threshold of 0.70. Indicating good internal consistency.

Descriptive Statistics

(Table 3) Survey Items	Mean	Median	SD
I'm aware of recent financial regulations related to banking & financial services	2.88	3.00	1.31
I believe financial regulations are clear and easy to understand	2.92	3.00	1.13
I believe financial regulations are applied fairly to all consumers	2.87	3.00	1.28
I trust new financial regulations introduces by the financial authorities	3.02	3.00	1.31
I believe financial regulations improve the quality of financial services provided by banks or other financial institutions	3.41	3.00	1.16
I believe financial regulations enhance the security of transactions	3.73	4.00	1.01
I believe it's easy for consumers to file complaints/report issues with financial institutions	3.51	4.00	1.18
I believe the government actively supports the development & improvement of financial regulations	3.41	3.00	1.20
I believe having internet access makes it easier for me to use financial services	4.43	5.00	0.886
I observe that the availability of ATMs & POS terminals facilitates financial	4.23	5.00	1.01

transactions			
I believe financial applications and digital banking platforms are easy to register for & use	4.11	4.00	1.01
I observe that mobile & online banking usage is increasing in my family & community	4.43	5.00	0.918
I observe people around me are using different digital payment methods instead of cash	4.46	5.00	0.796
I believe mobile money agents (e.g., Fawry, Aman) improve access to financial services & are easily accessible	4.11	4.00	1.02
I believe my family & community have sufficient knowledge to use financial services	3.75	4.00	1.07
My family & community commonly encourage saving in banks or other financial institutions	3.54	4.00	1.11
I believe people around me trust banks and other financial institutions	3.63	4.00	1.000
I believe people in my community prefer using credit cards over borrowing from friends or family	3.61	4.00	1.10
Discussing financial matters is socially acceptable in my community	3.68	4.00	1.11
I regularly use other financial services (e.g., different saving instruments, brokerage services, etc.)	3.25	3.00	1.35
I can easily access financial services when I need them	3.97	4.00	0.930
Financial services are affordable for me	3.74	4.00	1.02
Financial services feel secure to use	3.73	4.00	0.946
I use digital payments (e.g., mobile wallets, debit/credit cards, or online payments) for transactions instead of cash	4.05	4.00	1.02
I save, use credit, or make payments using online financial services	3.71	4.00	1.24
Financial services meet my personal and financial needs	3.99	4.00	0.922

Correlation Matrix

CPFR, TI, and CN all showed correlations above $r > 0.5$ and $p < 0.001$ with the dependent variable Financial Inclusion. Indicating a positive and significant correlation with the dependent variable (Table 4). The correlations between the independent variables and the mediator were positive and significant ($p < 0.001$) but were below $r < 0.5$ (Table 4), suggesting that Consumer Perceived Financial Regulations and Technological Infrastructure are moderately associated with Cultural Norms, given the hypothesised mediating role of Cultural Norms. Consumer Perceived Financial Regulations and Technological Infrastructure constructs showed an $r = 0.398$ and $p < 0.001$ (Table 4).

(Table 4) Variable	FI	CPFR	TI	CN
FI	—			
CPFR	r = 0.529, p < 0.001	—		
TI	r = 0.525 , p < 0.001	r = 0.398, p < 0.001	—	
CN	r = 0.626, p < 0.001	r = 0.498, p < 0.001	r = 0.451, p < 0.001	—

Regression & Mediation Analysis

Control variables were incorporated into the regression models and mediation analysis to better account for variations in respondents' demographic characteristics and behavioural differences that may influence financial inclusion. Control variables included: Age, Area of Residence, Monthly Income Level, and Educational Level.

Direct Effects Model

The regression results indicate that both CPFR and TI have a positive and statistically significant effect on FI. CPFR recorded a coefficient of b = 0.338 and $p < 0.001$, while TI recorded a coefficient of b = 0.342 and $p < 0.001$. The model produced an R^2 value of 0.465, indicating that approximately 46.5% of the variance in financial inclusion is explained by the independent variables included in the model (Table 5).

Independent Variables' Effect on the Mediator Model

Regression results indicated that both independent variables demonstrated a positive and statistically significant effect on CN. CPFR recorded a coefficient of b = 0.349 and $p < 0.001$, while TI recorded a coefficient of b = 0.291 and p = 0.001. The model produced an R^2 value of 0.375, indicating that approximately 37.5% of the variance in cultural norms is explained by the independent variables included in the model. This value is considered acceptable given the multidimensional nature of cultural norms (Table 5).

Full Model

When CN were introduced into the regression model, CPFR and TI both remained positive and statistically significant predictors of FI. CPFR recorded a coefficient of b = 0.225 and $p < 0.001$, while TI recorded a coefficient of b = 0.247 and p = 0.001, the decrease in the coefficients for both independent variables is consistent with the proposed mediation of CN. In addition, CN demonstrated a positive and significant relationship with Financial Inclusion, with a coefficient of b = 0.325 and $p < 0.001$. The model produced an R^2 of 0.541, indicating that the Full Model explained 54.1% of the variance in Financial Inclusion (Table 5).

(Table 5) Models	Path	b	t	p	R	R^2	Adj. R^2	F	df1	df2	Model P
Direct Effects Model	CPFR→FI	0.338	5.325	< 0.001	0.682	0.465	0.415	9.35	12	129	< 0.001
	TI→FI	0.341	4.448	< 0.001							
Mediator Model	CPFR→CN	0.348	4.733	< 0.001	0.612	0.375	0.317	6.45	12	129	< 0.001
	TI→CN	0.291	3.273	= 0.001							
Full Model	CPFR→FI	0.224	3.514	< .001	0.736	0.541	0.495	11.6	13	128	< 0.001
	TI→FI	0.246	3.321	= 0.001							
	CN→FI	0.325	4.607	< .001							

Mediation Analysis

Indirect effects were estimated with 95% confidence intervals derived using two methods: (1) the Delta Method and (2) the Percentile Bootstrap (5,000 resamples) to assess the robustness of the results.

The indirect effect of CPFR on FI through CN was positive and statistically significant (b = 0.113, $p < 0.001$), as was the indirect effect of TI on FI through CN (b = 0.095, p = .005), using the Delta Method, while nearly replicate results were shown using the Percentile Bootstrap (Table 6).

These findings support the argument that cultural norms partially mediate the relationship between CPFR and FI, and between TI and FI (Table 6).

(Table 6) Method	Indirect Path	b	z	p	Lower	Upper
Delta Method	CPFR→CN →FI	0.113	3.470	< 0.001	0.0493	0.1774
	TI→CN→FI	0.0948	2.803	= 0.005	0.0285	0.1611
Bootstrap	CPFR→CN→FI	0.113	3.470	< 0.001	0.0479	0.1855
	TI→CN→FI	0.0948	2.803	= 0.005	0.0208	0.1908

The findings show that the study's hypotheses are all supported (Table 7), indicating that both Consumer Perceived Financial Regulations (CPFR) and Technological Infrastructure (TI) positively influence Financial Inclusion (FI).

(Table 7) Hypothesis	Statement	Condition
H1	CPFR Positively Influences CN	Supported
H2	CPFR Positively Influences FI	Supported
H3	CN Positively Influences FI	Supported
H4	TI Positively Influences FI	Supported
H5	TI Positively Influences CN	Supported
H6	CN Mediates Between CPFR and FI	Supported
H7	CN Mediates Between TI and FI	Supported

Collinearity Statistics

VIF values for both predictors were well below the conventional threshold of 5, CPFR = 1.13 and TI = 1.17, with corresponding Tolerance values above 0.85 for both predictors, indicating no multicollinearity concerns between Consumer Perceived Financial Regulations and Technological Infrastructure in the Direct Effect and Independent Variables' Effect on the Mediator Models.

(Table 8) Variable	VIF	Tolerance
CPFR	1.13	0.883
TI	1.17	0.856

With Cultural Norms introduced as a mediator, VIF values increased slightly but remained well below the threshold of 5 across all three predictors, CPFR = 1.23, TI = 1.22 and CN = 1.26, while Tolerance values remained above 0.79. These results confirm that multicollinearity does not threaten the stability or interpretability of the Full Model's coefficients. The slight increase in VIF is expected, as Cultural Norms is theoretically and empirically related to both CPFR and TI. This reflects the shared variance inherent in a mediation model rather than problematic multicollinearity.

(Table 9) Variable	VIF	Tolerance
CPFR	1.23	0.815
TI	1.22	0.823
CN	1.26	0.791

Discussion & Conclusion

The findings of this study, derived from primary survey data collected from 142 respondents, indicate that both Consumer Perceived Financial Regulations and Technological Infrastructure have positive, statistically significant direct effects on Financial Inclusion. Individuals are significantly more likely to engage with formal financial services when they perceive financial regulations as transparent, fair, and effective, and when adequate technological infrastructure is readily available.

These results closely align with previous research highlighting the critical importance of regulatory quality, consumer trust, and robust technological development. Furthermore, both of these structural variables significantly influence Cultural Norms, which in turn positively affect Financial Inclusion.

This underscores that social attitudes, institutional trust, and community perceptions play an indispensable role in shaping individuals' financial behaviour.

Importantly, the mediation analysis confirmed that Cultural Norms partially mediate the relationships between these structural factors and Financial Inclusion. This indicates that regulatory and technological advancements enhance financial participation not only directly, but also indirectly by shaping societal attitudes and shifting behavioural norms over time. These results reinforce the theoretical view that financial inclusion is both a structural and a behavioural phenomenon that extends far beyond the mere physical availability of banking accounts or digital networks. Consumers' subjective perceptions of regulatory effectiveness and the prevailing social norms within their communities are equally vital to their willingness to integrate into the formal financial system.

From a practical policy perspective, these findings strongly imply that national efforts to expand financial inclusion must extend beyond physical infrastructure development and macroeconomic regulatory reform. Policymakers and financial institutions should focus concurrently on strengthening public trust, actively increasing awareness of consumer protections, and fostering positive social attitudes toward formal financial services. By comprehensively addressing both the structural supply-side factors and the behavioural demand-side dimensions, stakeholders can substantially improve the effectiveness and long-term sustainability of inclusion initiatives. Ultimately, this study contributes to the growing literature by introducing Consumer Perceived Financial Regulations as an underexplored determinant and conclusively demonstrating the essential mediating role of cultural norms within the Egyptian context.

Limitations & Recommendations

This study has several limitations that should be considered when interpreting its findings. First, the use of convenience sampling limits the generalisability of the results, as the sample was largely composed of urban, university-educated respondents and may not adequately represent rural populations or low-income groups. Second, the study relied on self-reported questionnaire data, making the results susceptible to response and social desirability bias. In addition, some respondents were hesitant to participate due to concerns that the survey was linked to government monitoring or taxation, despite assurances of anonymity, which may have influenced the accuracy of some responses. Finally, the study examined only a limited set of determinants of financial inclusion, excluding other potentially relevant factors such as income inequality, and GDP per capita.

Based on these findings, policymakers should strengthen regulatory transparency by clearly communicating consumer protection measures and increasing public awareness of financial rights to enhance trust in formal financial services. They should also support educational and community-based initiatives that promote positive attitudes towards financial inclusion, particularly in underserved communities. Financial institutions and FinTech providers should continue improving the accessibility and usability of digital financial services, especially for rural and digitally underserved populations. Future research should employ larger and more representative samples across different governorates and incorporate additional determinants of financial inclusion to provide a more comprehensive understanding of the factors influencing financial inclusion in Egypt.

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